

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-5. (Canceled)

6. (Currently Amended) A method of detecting an endpoint of a plasma based semiconductor fabrication process, the method comprising:

conducting a previous run of a plasma-based semiconductor fabrication process to empirically determine an endpoint qualifier;

providing an endpoint detector;

isolating the endpoint detector from exposure to an exhaust of a subsequent run of the plasma based semiconductor fabrication process during an initial stage of the subsequent run of the process until the endpoint qualifier is reached; and

exposing the endpoint detector to exhaust from the process during a later stage of the subsequent run of the process only after the endpoint qualifier is reached.

7. (Canceled)

8. (Original) The method of claim 6 wherein the plasma based semiconductor fabrication process is one of a plasma enhanced chemical vapor deposition (PECVD) process and a high density plasma chemical vapor deposition (HDP-CVD) process.

9. (Original) The method of claim 6 wherein the plasma based semiconductor fabrication process is a plasma etching process.

10. (Original) The method of claim 6 wherein isolation of the endpoint detector reduces unwanted deposition of material on exposed surfaces of the endpoint detector, thereby improving a stability of an optical signal produced from an electrical discharge between a cathode and an anode of the endpoint detector.

11. (Original) The method of claim 6 wherein isolation of the endpoint detector reduces unwanted deposition of material on exposed surfaces of the endpoint detector, thereby improving a stability of an RF power signal of a plasma generated in the endpoint detector.

12. (Original) The method of claim 6 wherein the endpoint detector is exposed after a predetermined elapsed time of the process corresponding to an endpoint qualifier.

13-16. (Canceled)

17. (Previously Presented) The method of claim 6 wherein the endpoint detector is exposed to the exhaust by an isolation valve controlled by a controller, the controller programmed to open the isolation valve after an initial phase of the plasma based process.

18. (New) The method of claim 6 wherein the endpoint qualifier is empirically determined by monitoring optical emissions from a non-isolated endpoint detector during the prior runs.